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| 10/540,119 | 03/09/2006 | Hans-Heinrich Gatzert Aptos | 2133.099USU | 8882 |
| 27623 7590 07/24/2007 OHLANDT, GREELEY, RUGGIERO & PERLE, LLP ONE LANDMARK SQUARE, 10TH FLOOR STAMFORD, CT 06901 | | | EXAMINER RENNER, CRAIG A | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,119

Applicant(s)

APTOS, HANS-HEINRICH
GATZEN

Examiner

Craig A. Renner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 21 September 2005.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of "the invention of Group I, which includes claims 1 through 26," and cancellation of "non-elected claims 27 through 38 without prejudice" in the reply filed on 30 April 2007 is acknowledged.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. PCT/EP03/14319, filed on 16 December 2003.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 21 September 2005 is in compliance with the provisions of 37 CFR 1.97 and 37 CFR 1.98. Accordingly, the information disclosure statement has been considered by the examiner.

Drawings

4. The drawings are objected to because of the following informalities:

a. The drawings fail to comply with 37 CFR 1.84(p)(5) because they include one or more reference signs not mentioned in the description. Note, for instance, "206" (shown in Fig. 8D, for instance) and "72" (shown in Fig. 10C, for instance).

- b. In Fig. 4, reference sign "22" should be drawn to the "coil" in order to be consistent with the remainder of the disclosure.
- c. In Fig. 7, reference sign "15" should be changed to --11-- in order to be consistent with the remainder of the disclosure.
- d. In Fig. 7, reference sign "141" should be drawn to the "side... of the carrier 14 facing the second block 7" in order to be consistent with the remainder of the disclosure.
- e. In Figs. 8A and 8B, reference signs "19" and "23" should be switched around in each of the figures in order to be consistent with the remainder of the disclosure.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) and/or an amendment to the specification in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The layout of the specification is objected to as being informal. The following guidelines illustrate the preferred layout for the specification of a utility application.

These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

6. The disclosure is objected to because of the following informalities:

a. In line 27 on page 19, "first block 7" should be changed to --first block 11-- in order to be consistent with the remainder of the disclosure.

b. In line 1 on page 20, "wafer 39" should be changed to --wafer 36-- in order to be consistent with the remainder of the disclosure.

c. In line 4 on page 20, "block 7" should be changed to -- block 11-- in order to be consistent with the remainder of the disclosure.

d. In line 2 of claim 13, "wherein the first block connected with a second block" should be corrected to read --wherein the first block is connected with a second block-- for better clarity.

Appropriate correction is required.

7. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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9. Claims 6 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. In lines 2-3 of claim 6, "two or more poles of the at least one yoke, which are surrounded by the coil" is indefinite as it is misdescriptive of the disclosure, which teaches/shows that only one of the poles of the at least one yoke is surrounded by the coil.

b. In lines 2-3 of claim 25, "the surface" is indefinite because it lacks clear and/or positive antecedent basis. It is also indefinite as to which component "the surface" belongs.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-7, 9-10, 13, 15, 18, and 20-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwarz et al. (US 5,434,732).

Schwarz et al. (US 5,434,732) teaches a read-write head (lines 1-2 in the abstract, for instance) comprising a first block (44 or 310, for instance); a carrier (includes 32 or 302, for instance) connected movably with the first block carrying a read-

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write element (30 or 304, for instance), whereby the carrier is connected resiliently movable with the block by at least one leaf spring (46 or 330, for instance); and at least one electromagnetic actuator device (includes 40A, 40B, and/or 60, for instance, or, alternatively, 314 and/or 320, for instance) with at least one electromagnetic element (includes 40A, 40B, and/or 60, for instance, or, alternatively, 314 and/or 320, for instance) to create magnetic forces which are acting upon the carrier [as per claim 1]; wherein the at least one electromagnetic actuator device comprises at least one actuator element (60 or 314, for instance) attached or integrated to the carrier, on which forces are exercisable by electromagnetic fields [as per claim 2]; wherein the at least one electromagnetic element includes a coil (62 or 316, for instance) [as per claim 3]; wherein the at least one electromagnetic actuator device includes at least one yoke (38, for instance, see line 53 in column 3 through line 1 in column 4, for instance, or, alternatively, 322, for instance) [as per claim 4]; wherein the at least one electromagnetic element of the at least one electromagnetic actuator device includes a coil (316, for instance) about one pole (324, for instance) of at least one yoke (320, for instance) [as per claim 5]; wherein the at least one yoke comprises a leg (lower portion of 320, for instance), which connects two or more poles (322 and 324, for instance) of the at least one yoke, at least one of which surrounded by the coil [as per claim 6]; wherein the at least one electromagnetic actuator device includes at least one magnetizable element (38 or 322, for instance) [as per claim 7]; wherein the at least one magnetizable element includes a flux closing yoke (38 or 322, for instance) [as per claim 9]; wherein the at least one electromagnetic actuator device includes at least one

permanently magnetizable element (40A, 40B, or part of 320, for instance) [as per claim 10]; wherein the first block is connected with a second block (5 or 312, for instance), whereby the magnetic forces created by the at least one electromagnetic actuator device are acting between the carrier and the second block [as per claim 13]; wherein the at least one electromagnetic actuator device comprises electromagnetic elements (40A, 40B and 60, for instance, or, alternatively, 320 and 314, for instance) which are located on the second block as well as on the carrier [as per claim 15]; wherein the read-write head is shaped as a slider (as shown in Fig. 1 or Fig. 3, for instance) [as per claim 18]; wherein the carrier exhibits a smaller thickness than the first block (as shown in Fig. 2A or 4A, for instance, i.e., the smallest thickness of the carrier is smaller than the largest thickness of the first block) [as per claim 20]; wherein the read-write element comprises an element selected from the group consisting of an electromagnetic read-write element, a magneto-resistive electromagnetic read-write element, an optical read-write element, a magneto-optical read-write element, and a combination of at least two of these elements (lines 1-2 of the abstract, for instance, i.e., an electromagnetic read-write element) [as per claim 21]; wherein the head is utilized in a method comprising writing data on at least one predetermined track on a data carrier or a data read along a track arranged on a data storage medium by the read-write element of the read-write head, wherein the read-write head is attached to a suspension (left-most portion of 32, for instance), wherein the read-write element is arranged on a resiliently supported carrier (right portion of 32, for instance) of the read-write head, and wherein a track following of the read-write element is readjusted by the at least one electromagnetic

actuator device of the read-write head [as per claim 22]; wherein the method further comprises carrying out an adjustment of the distance of the read-write element to the surface of the data carrier (lines 41-44 in column 3 and lines 5-8 in column 10, for instance) [as per claim 23]; wherein the read-write element is tilted along an axis essentially parallel to a read write direction (as shown in Fig. 2A, for instance, i.e., the axis and direction are both formed in the paper) [as per claim 24]; wherein the method further comprises readjusting the track following laterally along the surface (as shown in Figs. 1A and 2B, for instance) [as per claim 25]; and wherein the at least one electromagnetic actuator device of the read-write head is activated by exciting a coil (62, for instance) [as per claim 26]. As the claims are directed to a "head", per se, the method limitation(s) appearing in line 3 of claim 3 can only be accorded weight to the extent that it/they affect the structure of the completed head. Note that "[d]etermination of patentability in 'product-by-process' claims is based on product itself, even though such claims are limited and defined by process [i.e., "fabricated in thin film technology or by electroplating", for instance], and thus product in such claim is unpatentable if it is the same as, or obvious form, product of prior art, even if prior product was made by a different process", *In re Thorpe, et al.*, 227 USPQ 964 (CAFC 1985). Furthermore, note that a "[p]roduct-by-process claim, although reciting subject matter of claim in terms of how it is made [i.e., "fabricated in thin film technology or by electroplating", for instance], is still product claim; it is patentability of product claimed and not recited process steps that must be established, in spite of fact that claim may recite only process limitations", *In re Hirao and Sato*, 190 USPQ 685 (CCPA 1976).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 8, 11-12, 14, 16-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz et al. (US 5,434,732).

Schwarz et al. (US 5,434,732) teaches the head as detailed in paragraph 11, supra, further wherein the slider comprises a glide surface (as shown in Figs. 2A and 2B, for instance). Schwarz et al. (US 5,434,732), however, remains silent as to the magnetizable element material being "soft magnetic material" as per claim 8; the at least one electromagnetic actuator device comprising "two electromagnetic actuator devices" as per claims 11-12, or "three electromagnetic actuator devices" as per claim 17; "a magnetizable or permanently magnetized element connected to the carrier" as per claims 14 and 16; and "at least one area of the glide surface [being] coated with diamond-like carbon" [as per claim 19].

Official notice is taken of the fact that soft magnetic material is a notoriously old and well known magnetizable element material in the art. Official notice is also taken of the fact that it is notoriously old and well known in the art to increase the number of devices in the same field of endeavor for the purpose of increasing performance strength and stability. Official notice is additionally taken of the fact that it is notoriously

old and well known it that art to switch the location of a magnetizable or permanently magnetized element with a coil in the same field of endeavor for accomplishing the same function of enabling position adjustment. Official notice is lastly taken of the fact that it is notoriously old and well known in the art to coat a glide surface with diamond-like carbon in the same field of endeavor for the purpose of reducing wear. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the magnetizable element material of Schwarz et al. (US 5,434,732) be soft magnetic material; the at least one electromagnetic actuator device of Schwarz et al. (US 5,434,732) comprise two or three electromagnetic actuator devices; a magnetizable or permanently magnetized element connected to the carrier of Schwarz et al. (US 5,434,732); and at least one area of the glide surface of Schwarz et al. (US 5,434,732) be coated with diamond-like carbon. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the magnetizable element material of Schwarz et al. (US 5,434,732) be soft magnetic material since such is a notoriously old and well known magnetizable element material in the art, and since selecting a known material on the basis of its suitability for the intended use is within the level of ordinary skill in the art, *In re Leshin*, 125 USPQ 416 (CCPA 1960).

One of ordinary skill in the art would have been motivated to have had the at least one electromagnetic actuator device of Schwarz et al. (US 5,434,732) comprise two or three electromagnetic actuator devices since such increases performance strength and stability, and since duplication of the essential working parts of a device for

multiple effects is within the level of ordinary skill in the art, *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 (7th Cir. 1977).

One of ordinary skill in the art would have been motivated to have had a magnetizable or permanently magnetized element connected to the carrier of Schwarz et al. (US 5,434,732) since it is notoriously old and well known in that art to switch the location of a magnetizable or permanently magnetized element with a coil in the same field of endeavor for accomplishing the same function of enabling position adjustment, and since a mere reversal of the essential working parts of a device involves only routine skill in the art, *In re Einstein*, 8 USPQ 166 (CCPA 1931).

One of ordinary skill in the art would have been motivated to have had at least one area of the glide surface of Schwarz et al. (US 5,434,732) be coated with diamond-like carbon since such reduces wear.

Pertinent Prior Art

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Nayak et al. (US 5,191,492), Anderson et al. (US 5,280,402), Nayak et al. (US 5,371,636), and Schwarz (US 5,379,170), which each individually teaches a read-write head comprising a first block; a carrier connected movably with the first block carrying a read-write element, whereby the carrier is connected resiliently movable with the block by at least one leaf spring; and at least one electromagnetic actuator device with at least one electromagnetic element to create magnetic forces which are acting upon the carrier; and Kasahara (US 5,764,432),

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Koshikawa et al. (US 5,920,978), Bonin et al. (US 6,683,757), and Bonin et al. (US 6,785,086), which each individually teaches a read-write head comprising a first block; a carrier connected movably with the first block carrying a read-write element, whereby the carrier is connected resiliently movable with the block by at least one leaf spring; and at least one electrostatic actuator device with at least one electrostatic element to create forces which are acting upon the carrier.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Craig A. Renner
Primary Examiner
Art Unit 2627

CAR